2: Adams E-4, 5 (1970-1971) 1973 SR9 Carib SR9
(1932-1971) Barama River

THE BARAMA RIVER CARIBS OF GUYANA RESTUDIED: FORTY YEARS OF CULTURAL ADAPTATION AND POPULATION CHANGE

Abstract

by

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121 175 [361] [659] Thesis The Caribs of the Upper Barama River drainage basin in the North West District of Guyana are restudied. About forty years ago, this population practiced a semi-nomadic adaptation to the rain forest. Now these Caribs benefit from national medical programs and participate in regional markets for labor and local commodities. 121 177 The Upper Barama River Carib population is investigated for changes over time in aspects of its behavioral patterns which have affected its size, distribution, and organization relative to resources available in the natural and social environments. Regional influences are examined, and analyses are made of productive activities and patterns of sharing and direct exchange as this small, relatively isolated population has been integrated into a national political economy.

121 informants or locations, another dimension is added here. Individ-
114 uals can be identified and the establishment of trans-generational
124 continuity is possible.

121 Two areas of theoretical concern particularly lend themselves to
*177 investigation under the fortuitous circumstances of being able to
[161] trace changes occurring over time among a specific group. The first
is cultural change: the second, human population control mechanisms.

175 In regard to cultural change, until forty years ago the Caribs
*177 of the Upper Barama River were adapting to the equatorial rain
182 forest with essentially a lithic technology. They combined hunting,
[22] fishing, and collecting with a semi-nomadic form of horticulture.
[241] Currently, the majority of these Caribs are settled at a community
*177 known as Baramita Air Strip. They engage in wage employment, make
[465] use of regional markets for local products, participate in agricul-
[438] tural development programs, and benefit from national medical
[242] programs. From a position of relative isolation in the rain forest,
a [651] this group has been increasingly encapsulated in the national
[161] political economy. Attending this development has been changes in
their population size and composition as well as internal organiza-
tion. These changes are a major focus of the present study.

121 In pursuing the analysis of these changes, cultural materialism
is relied upon as the most economical mode of explanation. Among
others, Harris (1968) has proposed that techno-environmental
determinants can serve in a comparative approach to cultural
adaptation. One example of this approach is Murphy and Steward's
comparison of the Mundurucu of Brazil and the Northeastern

future use.

As is evident from these data, the dependence on local biotic resources has not remained constant. For the most part, the introduction of iron technology, guns, and new cultigens has not greatly changed the patterns of exploitation of biotic resources. However, cultural changes brought about by the local availability of regional resources have had consequences in the degree to which the forest flora and fauna are exploited as well as the extent of the manipulation of cultigen communities. The history of these external resources may be summarized as follows.

Regional Contacts and External Resources

The scattered Carib settlements reported by Gillin (1936) along the length of the Upper Barama River have been abandoned. Amerindians have been attracted by enclaves of introduced economies where new resources are available. In the Upper Barama River area, gold mining activities and later a government settlement project have involved the local population. Also, Caribs have migrated out of the Upper Barama River drainage basin. Groups of Amerindians have gone to Matthew's Ridge, others to the Cuyuni River.[1]

More specifically, this study concerns the succession of regional influences and the resultant human adaptations in the Upper Barama River area. These external resources which have affected the local population size and social organization have reached the Upper Barama River Caribs through two channels. Some have come as public services available to Amerindians through various governmental agents. Other

*177 independent of regular contact with regional transportation and
175 communication.
439

Nevertheless, the relationships Baird established during this period are critical to our analysis. Over the years, he clearly became the middleman through whom a local economy interfingered with
175 the regional economy. He supplied limited employment opportunities
*177 and market outlets. Thus, a number of Amerindians left aside sub-
464 sistence farming and depended on the wage work he provided. Others sought occasional employment, and still others supplied provisions for those engaged in mining activities. All of this had an important impact on the Amerindian population.

*177 In effect, Baird became a patron of Amerindian clients. As such,
175 he was subsequently the person through whom government services were
466 introduced and government support was elicited. During the later
• 659 years of Baird's gold mining activities, government health care was first introduced. The support elicited was a call for Amerindian votes. Eventually, when Baird gave up mining, he assumed an official role as government employee. His position as the broker controlling access to the Amerindians in the Upper Barama was clearly underscored by the missionary attempt to establish a similar relationship.

Missionaries

175 The Pilgrim Holiness Church Corporation is a fundamentalist
*177 organization based in the midwestern United States. They have been
797 active in Guyana at least since the early 1920's. Their early activities were on the coast and later expanded into the interior.

175 *179 799 The brief existence of their mission in the Upper Barama River area is recorded only by a few poorly remembered portions of dogma. The health services, occasional employment opportunities, clothing, ammunition, and food commodities the mission provided had a far greater impact.

In 1963, a reverend from the Pilgrim Holiness Church established a mission at Baramita Air Strip. He came alone at first to make a camp. Later he brought his family. In 1965, this family was replaced by another missionary family. Also, a nurse came to open a [726] clinic. In the spring of 1969, following the unsuccessful Rupununi Rebellion,[3] the missionaries left Baramita Air Strip as requested by the Government. The abandoned missionary buildings and twenty acres of ground were later incorporated into community development service.

• [659] The isolationist program of the Pilgrim Holiness Church was in conflict with the Government's goal of Amerindian integration. They disclosed a strategy of imposing their mission as the exclusive link between the Amerindian people and outside influences. Accordingly, they were equipped with independent means of communication and transportation - a radio phone and a small plane. With these, the missionaries were free to disregard national boundaries in their efforts to secure a congregation by providing for the material wants and needs of the Amerindians.

However, the missionaries came too late in the history of the Upper Barama River to compete as middlemen in controlling access to the Amerindians. With their limited resources, they were unable to

co-opt the permanent exchange relationships which Baird had already established. The missionaries' greatest success had been with those few people living at the Air Strip who were not immediately affected by the local mining economy. Furthermore, Baird, with his long standing allegiance to Guyanese nationalism, had always acted as the emissary for the Government in the region. In contrast, the American missionaries operated internationally in the promotion of their own interests. Clearly, Baird was the obvious choice for government support in this strategic frontier outpost close to the Venezuelan border, particularly since 1962 when Venezuela reopened a border dispute along the North West District.[4]

International events have made the remote Upper Barama River area strategic to Guyana's national development. In order to secure the hinterland, programs have been designed to tie these areas to the national political economy. In the Upper Barama area, this goal has been implemented by a settlement project at Baramita Air Strip.

The Baramita Air Strip Settlement

Late in 1969, Baird ceased mining operations altogether. His imminent withdrawal from the area would have left many impoverished Amerindians exposed to the potential of Venezuelan influence. It was also important not to abandon the air strip close to the Venezuelan frontier for other than Guyanese use. Thus, government programs were introduced with new resources administrated by new personnel. Baird moved to Baramita Air Strip where he assumed a salaried position as Project Officer in the Department of Interior

*177 Development. The Amerindians who had previously worked for him quit
175 their settlements around the mine and followed Baird to the air strip.
659 In Time, Baird's mine, was left derelect; the era of gold activities
361 was ended. Resource opportunities in the area now tend to be concentrated at the air strip, and the Caribs have nucleated around them.

*177 To some extent, government programs and services had reached
175 these Amerindians before the creation of the Baramita Air Strip
659 community. Due to the remoteness of the area, the Aboriginal Indians Protection Ordinance of 1910 little affected the Upper Barama River Caribs. Likewise, the government policy of Amerindian integration expressed in the Amerindian Ordinance of 1951 did not directly affect these Caribs either until recently. The extension of health services and participation in national elections have already been mentioned. Since 1960 ,a malaria eradication program has been conducted in the area. This includes testing the population with blood smears, distributing salt medicated with chloroquine, and spraying habitations with DDT. Also, at various times, health teams were sent into the bush to treat epidemics. Individuals too sick to benefit from locally available care have been sent by plane to public health facilities in Georgetown. However, in addition to these measures, aid for more moderate disabilities and preventive health care were added with a resident Medical Ranger.

*177 Health services, a government school, markets for crops, and
659 agricultural assistance are now locally available. A Medical Ranger, an Agricultural Field Assistant, and a School Master are in residence. A doctor holds a clinic once a month at the Air Strip. All of these

facilities for local community development have been introduced in the period of a few months. The structure through which they are available is diagrammed in Figure 3. Baird's autonomous position as a gold miner has changed. As Project Officer, he is now responsible for locally implementing government programs and supervising facilities that cut across the responsibilities of several Ministries. These include the Ministry of Health, Ministry of Education, Ministry of Agricultural and Natural Resources, and Ministry of Local Government. In addition to his position in the Interior Development Department, Baird is also an agent for the Post Office Department, Civil Aviation, and Guyana Airways Corporation. By July 1970, the Baramita Air Strip community was established. Two new buildings constructed along the air strip to house government personnel add to the appearance of a settlement.

In addition to these services for the population, the Ministry of Local Government has provided for the development of local Amerindian leadership. As with all Amerindian populations in the interior, local elections are held. The first occurred in the Upper Barama River area at In Time in October 1967. A second election was held at the air strip in October 1971. A Captain and three Councillors are chosen. The Captaincy is a salaried position; councillorship is not. Thus, one more source of external resources is available to this population.

The question of local land tenure also has received government attention. However, the Amerindian request for land titles occurred without the participation of the Upper Barama River Caribs who have

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Chief Interior Development Officer
and Amerindian Development Officer
in the Department of Interior Development
under the Ministry of Economic Development

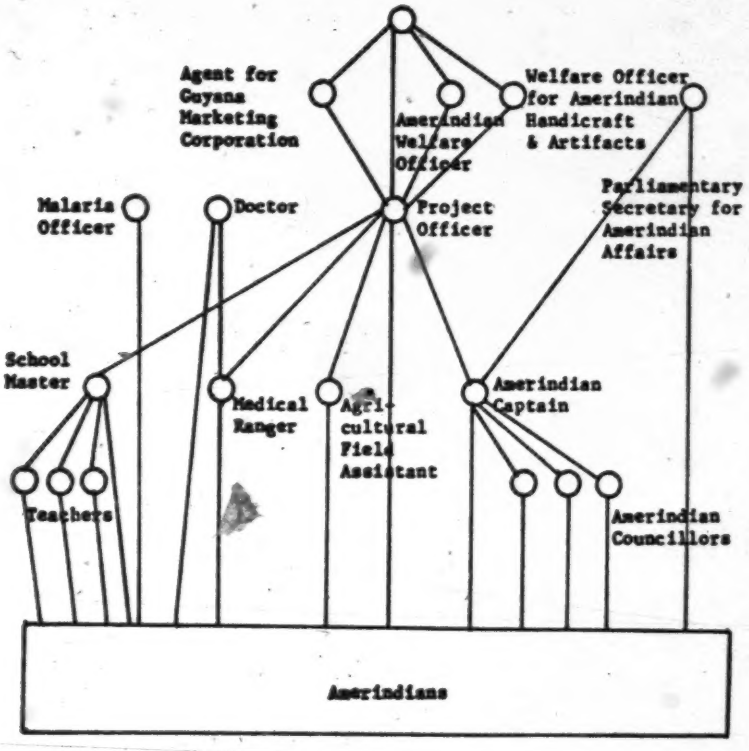

Figure 3. Structure of Governmental Employees.

*177 remained uninformed of the following steps. In 1962, the Amerindian
175 Association was formed. During the 1965 Conference to discuss
423 Guyana's independence, their petition was successful. The granting
*657 of legal ownership or right of occupancy over land to Amerindians was included in the body of law resulting from this conference. An Amerindian Lands Commission worked from September 1967 to August 1969. With regard to the Upper Barama River area, no title requests were submitted. The Commission recommended the encouragement of a nucleation of the scattered population and the establishment of a protective district in which land is set aside for the use of Amerindians (Amerindian Lands Commission 1969:204). Figure 4 is a map presenting the boundaries of this proposed district.

*177 In short, the development of citizens is currently the sole
657 activity in the Upper Barama River area supported by an outside agent, the Guyanese Government. Limited transportation and communication facilities continue to be an obstacle, as they were to those seeking gold. Interior air transportation is subsidized by the Government. Guyana Airways Corporation has a scheduled flight on Friday mornings to Baramita Air Strip, a stopover on the regular route to Matthew's Ridge. However, the flight is subject to delay and cancellation. Also, there is no certainty which week expected cargo will arrive. Passage to Georgetown is $26 and cargo is 13¢ a pound. These prices are beyond the means of the local Amerindians. Thus, air travel remains exclusive. However, the Guyana Marketing Corporation pays the air freight of agricultural produce.

*177 Overland transportation which would provide quick, cheap, reliable

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175 in the headwaters of the Barima River. He was able to convince
*177 several men from Cedar, one of the settlements, to cut a communal
361 farm at Black Water Creek, about two miles north of the air strip.
622 For a time, twenty-four people from Cedar were living there. Later, they went back to Cedar, only sporadically returning to camp out for a few days or so to make use of the facilities at the Air Strip. It is clear that this smaller Carib population from the headwaters of the Barima River remains peripheral in an analysis of cultural change among the Upper Barama River Caribs.

*177 Figure 9 summarizes the settlement pattern in the Upper Barama
175 area in 1969. The greatest nucleation of population occurred in
361 zone a. There, 171 people were directly supported by mining activi-
464 ties at In Time. In zone b, the larger but more dispersed population of 190 was more indirectly involved in the mining economy. Lastly, the remaining population of 143 was dispersed in five more independent settlements in the rain forest. Settlements are varied in purpose. However, the Upper Barama River Caribs as yet do not have two or more house sites where they engage in different activities.
• [659] This occurs with the introduction of government programs and services at Baramita Air Strip.

*177 During 1970-71, the population located in the Upper Barama River
361 area was centralized in varying degrees around Baramita Air Strip
162 (see Figure 10). In the summer of 1971, there were 333 residents at the Air Strip. Of this number, 232 are permanent residents. The remainder are mobile, part-time residents who also maintain farms in the more remote settlements. Also in the spring of 1971, Aranka had

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a population of 114 and Baramita sixty-nine. These two settlements also have mobile residents who have access to farms in still more remote areas. The latter include thirty-five inhabitants.[10] In total, there were 551 Carib people in the Upper Barama River area in 1971.

Increasingly, the practice of abandoning a house site in the case of a death is being neglected. A cemetery some distance away is being used at the Air Strip. Several older graves around house sites are disregarded. Apparently, priorities of location override this tradition.

Figure 11 shows the current settlement pattern. Both zone a and b have permanent residents. Zone c residents also make use of farms in either zone a or b. There is little direct movement between zone a and b. The partial centralization of population initiated by the local mining economy has been completed. Within the existing nucleation, the center has been changed from the mine to the air strip. The remaining population has been drawn into this locus. In contrast to the limited opportunities available at the mine, some of the opportunities at the Air Strip are public. That is, they are available to all Caribs. These new resources are the clinic, the school, and agricultural assistance. However, very few employment opportunities are available at Baramita Air Strip. Bush farms must be maintained and returned to in the case of the permanent workers who had left aside subsistence in the rain forest.

Consequently, a pattern of dual residence appears to be emerging in response to resource development. The local Carib population has

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175 Clearly by the 1940's, exchange and employment opportunities play
*177 an important role in respect to this Carib population's adaptation.
161 Men were being regularly engaged in mining activities and increasing
[464] numbers of them were permanent workers for Baird. Despite Peberty's
comments, there is evidence that the reproductive pattern was greatly
changed.

175 In 1960 government census provides the first evidence of this
*177 increase in population size. Unfortunately in this report, the
162 inhabitants between Kokerite and Towakaima were counted with the
Upper Barama River Caribs. In this larger group, there were 565
people, including 285 males and 280 females. As a partial indication
of what portion of these were in the Upper Barama River above
Towakaima, 142 adults from this area were registered to vote in 1961.
Table 6 presents the age structure and sex composition of the larger
[163] Carib group. Also, for the year preceding the census, there were 13
births all occurring to women under 45. Expressed as a crude birth
rate, this is 23.5 births per thousand total population.

175 In the investigation of the change in population size, it must be
• 657 pointed out that early health care was haphazard at best. Systematic
health care was not available until very recently. It should be noted
that 1960 was the first year the Malaria Eradication Programme was
175 extended into the Upper Barama area. At that time, 271 smears were
657 taken and 23 were positive for malaria. This is an incidence of
164 malaria for 8.6 percent of the population tested. The Malaria
Eradication Programme resumed in the Upper Barama area in the summer
of 1966. At that time, 314 people were tested. Of this number,

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175 82 had malaria and 126 had had it recently. Together, this is an
• 657 increase to 66.9 percent of the tested population. In the fall of
164 1967, there were 412 people living in the Upper Barama area according to the Malaria Eradication Programme reports. Of this number, 396 were tested for malaria. At that time, only 14 were positive for the disease, 23 were positive for recent fever. This is a reduction to an incidence of 9.3 percent of the tested population in little more than a year. Since then, there have been no positive tests for malaria in the Upper Barama area.

657 More short term campaigns have been made to treat other diseases
164 among the Upper Barama Caribs. Although there are no records of
165 mortality among this population, epidemics which have caused multiple deaths have been attended by medical teams from Georgetown. In the summer of 1966, about 150 people were treated during an epidemic of measles. Later, an outbreak of gastroenteritis received the attention of a medical team. Seven people died during this last epidemic. Most other deaths have been single events.

164 There are no reliable records for the incidence of other diseases. Worms and other parasites are still a major health problem. This is especially the case around Baramita Air Strip with so many families
[514] commonly using small creeks for all purposes. There has been some
*[177] efforts to promote the use of pit latrines, and four of these are in
146 existence at the Air Strip. Also, malnutrition is a health factor. During the year of field work, weight loss was observed among the
[142] people who had been dependent on employment at the mine. Also, burnished hair and pot bellies, signs of protein deficiency, are

146 common among all children in the age range from about eighteen months
[142] to four years. These children no longer nurse and yet are not old enough to effectively gather casual protein and other foods on their
[597] own. However, if a family's subsistence crisis becomes extended, a child in this age range may be given up for adoption, usually by a family of immediate kinsmen. Three cases of such adoption recently occurred among the segment of the population at the Air Strip. Con-
146 sequently, the protein deprivation of children was not sufficient to
165 cause any deaths during August 1970 to July 1971. For this period, two deaths occurred in the total population. Both were in the age category of over sixty-five.

*177 Clearly, health programs cannot be held responsible for any major
161 changes in population size which occurred before 1960. Health care
• 657 has been introduced only in the last years and certainly has influenced
[165] the mortality rate of infants and others. Nevertheless, the change in the pattern of reproduction occurred previous to these health measures, as will be apparent from data collected among the population in question during 1970-71.

162 During 1971, there were 551 Caribs in the Upper Barama River
361 drainage basin. This number includes 280 males and 271 females. The age structure and sex composition for the total population are presented in Table 7. Table 8 reports the age structure and sex composition for the segment of the population at Baramita Air Strip; Table 9, for the remaining population in the satellite settlements.

162 As is clear, 264 or 47.9 percent of the total population is under
*177 ten years of age. Also, it is apparent that this larger proportion

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847 This may occur with a young
[848] mother with an insecure relationship with the father or a child that
[511] is not her husband's. Also, a poor subsistence situation may inspire a woman to neglect or kill her infant. From the confidences expressed, there have occurred about five cases of infanticide over the last ten
842 years. Aside from these measures, some women have expressed desires to limit the number of children they produce but profess a lack of
163 knowledge on how to do so. With every fertile woman approaching the fulfillment of a potential to reproduce twelve to thirteen children, the implications for accelerating population growth are apparent.
[657] Also, with medical attention and other government assistance, the
[165] number of children who survive has increased.

163 Over the last forty years, the reproductive pattern of the Upper
*177 Barama River Carib population seems to have responded to changes in
178 economic conditions. There is no evidence to demonstrate that this population was ever in any long period of equilibrium with regard to its size, or well regulated by cultural practices to maintain it below
175 any direct relationship to fluctuations in local food resources. On
931 the contrary, it appears that this population previously underwent conditions of famine from time to time. King (1968:16) reports a drought for Guyana every thirteen to fourteen years. Although there are no direct records kept for the Upper Barama River area, there are
[657] indications of periodic local food shortages. In the six years previous to the establishment of development programs at Baramita Air Strip, the Government was called upon twice to send relief food packages to the Caribs not directly involved in mining. However, by this time, the total population was influenced by the mining

*177 439 Throughout the time period under consideration, commercial trade goods have been incorporated, mostly by way of substitution for their [412] [415] [175] local equivalent. Axeheads, cutlasses, knives, iron griddle pans, cotton cloth, and shotguns reached the population in varying degrees at the time of Gillin's study (1934:332). These trade goods did not lose their popularity. They have been added to by other external resources and their quantity and availability have been increased. [163] [61] [511] [62] Eventually, a flow of external goods and services into the Upper Barama River area has resulted in an increased birth rate and an increasing population size, an improved standard of living, and changes in the social organization of the population.

*177 175 443 [484] However, markets have been introduced and controlled by external agents. As has already been explained, the Upper Barama River Caribs do not have easy access to regional markets. They do not travel to transact regional exchanges. Rather, they have depended on the opportunities provided by non-Carib middlemen who reside in the Upper Barama River area and who have good access to the limited transportation and communication facilities. As characteristic of the conveyance of regional exchanges into remote areas, market opportunities have been highly personalized. This was characteristic of the early period of porknocking activities and the existence of the gold [657] companies. Personalized market networks continue to be associated with government programs and services at Baramita Air Strip.

*177 195 437 439 Market Opportunities Provided by the Early Gold Seekers

The earliest regional exchanges reported for these Caribs involved

The trade store was the main vehicle for the involvement of the remainder of the population in regional exchange. With the establishment of Baird's enterprise, there was a constant call for local foods which the trade store stocked. Caribs not employed at the mine were then able to sell these foods on a more or less planned basis. The residents of Aranka, Baramita, and later the Air Strip, did this regularly. Caribs in the more remote settlements made more infrequent trips. However, the quantities required were limited. No special fields were cut nor special crops planted. Part of the regular subsistence production was used for these exchange purposes. Also, there operated informal consignment agreements. When a supply of meat, cassava, plantains, yams, or whatever ran low, individual men were invited to bring these to the store. Often no money changed hands. Rather, small accounts were kept. In addition to exchanges centralized by the trade store, some exchanges occurred directly between Caribs. The prices used were those at the trade store. Also, for a short time, the missionaries contributed to the market opportunities in the area by occasionally hiring a few laborers, by buying some local handicraft items, and by selling food and clothing.

Before the mine closed in 1969, one other development occurred which further involved this population in regional exchange networks. A local administrative structure, devised and implemented by the Ministry of Local Government, has been imposed on Amerindian populations to promote national political integration.[3] Amerindian offices were first introduced among the Upper Barama River Caribs with an election held at In Time in October 1967. From among four

candidates who were unemployed at the time, one man was selected by the largest number of votes to serve as Captain for a four-year term. Other candidates for the Captaincy became Councillors. Of these offices, only the Captaincy is a salaried position. It receives $130 a month.[4] The duties of these offices, which have been more clearly defined with the government settlement project at Baramita Air Strip, have provided a basis for the redistribution of the Captain's salary to a wider section of the population. However, the office of Captain among the Upper Barama River Caribs does not differentiate the officeholder in any sustained fashion from the rest of the population. Similar to other forms of local employment in the Upper Barama River area, the Captaincy is not a vehicle to gain a control in regional markets or to accumulate deployable forms of capital.

Previous to the establishment of the mining companies, the dispersed Carib settlements tended to be closed with regard to obtaining and sharing local subsistence resources. This pattern was apparently little disturbed by the first trade goods brought by the mobile porknockers. However, the money economy and the centralized channels of regional exchange introduced by the mining companies markedly altered Carib subsistence. External resources came to be critical to the subsistence patterns of the expanding local population, and settlements became more centralized around their source. In 1969, Baird's mining activities were directly supporting 171 individuals or 33.9 percent of the total Carib population at the time. Located nearby at Baramita, Aranka, and the Air Strip, another 190 individuals

*177 464 Periodically, they made field trips to the more remote settlements, including those in the headwaters of the Barima River. Also, more extensive employment was available with the Malaria Eradication Officer. He visits the area about every six months and employs about ten men for periods up to six weeks. The pay for carrying loads for [465] the Agricultural Field Assistant was about $4 a day. Those men employed by the officers of the Ministry of Health received about $6 a day.

In short, jobs were temporary and limited, similar to the early employment with transient porknockers. In contrast to the casual participation in the early opportunities, the limited jobs available at Baramita Air Strip constituted an unemployment problem. The Upper Barama River Caribs before and after thirty years of mining activities were operating on a very different economic basis. The commercial goods and a steady source of provisions provided by employment had come to be a desirable alternative to maintaining a farm in the bush. Nevertheless, due to the impermanence of employment, a Carib who becomes separated from a subsistence relationship to the rain forest is in a precarious position, as witnessed by the subsistence crisis experienced by the former miners and their families when In Time mine was closed. The remaining regional markets available at Baramita Air Strip were specifically intended to augment an agrarian subsistence among the Upper Barama River Caribs.

*177 657 241 439 654 A large number of men were involved in subsidized agricultural development. In the summer of 1970, the first field was cut. About four acres of black-eyed peas were planted. From the harvest, 350

pounds were received by the Guyana Marketing Corporation in Georgetown. From the sale of this harvest, $90 was returned to Baramita Air Strip and distributed among the ten or twelve men who had worked on the project. By the fall of 1970, a larger project subsidized by the Government was under way. From among the previous miners, ten were paid $4 a day to cut fields, plant, and later harvest crops. One man became discouraged before the harvest, and his field was turned over to another. One large field was cut alongside the air strip. Eight men were each apportioned a strip about seventy-five feet by 500 to 550 feet. Two other miners developed a separate field of about five acres which they worked together. The seeds were given by the Government and had to be returned from the harvest. The sale of the remainder of the crop to the Guyana Marketing Corporation was the farmer's profit. Peanuts and red beans were planted, and families were encouraged to help the men in the fields.

In addition to these specific projects, other Carib men were encouraged to grow cash crops with the government loan of seeds. At first, two men participated. They each planted peanuts. The combined March and April 1971 harvest from all of this subsidized farming amounted to 1416 pounds of peanuts, which sold for $481.44, and 374 pounds of red beans, which sold for $88.75. Also, in April and again in May of 1971, rations for cooperative farm projects were introduced at Baramita Air Strip. These rations included wheat flour, vegetable oil, and a mixture of cornmeal, soy bean flour, and powdered milk called bulgar wheat. This food[5] was distributed among about twenty-five men from the Air Strip as well as the satellite settlements where others were cutting fields for cash crops.

000 where others were cutting fields for cash crops.

*177 657 241 439 From time to time, the Agricultural Field Assistant arranged for bunches of bananas and plantains to be sent to the Guyana Marketing Corporation in Georgetown. Two Carib farmers were involved in this enterprise. From November through December, 1970, 607 pounds of bananas, 353 pounds of plantains, and thirty-five pounds of apple bananas were received by the Guyana Marketing Corporation from Baramita Air Strip. This returned a payment of $58.83.[6] Later, another man was encouraged to bring out a crop of limes from Baramita settlement for shipment to Guyana Marketing Corporation.

*177 657 322 439 Still another new market opportunity involves handicrafts. Under the encouragement of the Welfare Officer for Amerindian Handicraft and Artifacts, the Project Officer looked into the local possibilities. He developed the manufacture of decorative bow and arrow sets. Smaller versions of the bows and arrows in use were designed. Both bows and arrows were about three feet long. One bow and two arrows were mounted on small wooden stands. Craftsmanship was put at a premium, and only the fancier washiba and leopard woods were used. A variety of arrow points for spearing fish and hunting game animals and birds no longer generally in use were revived. Men were paid between $3.00 and $5.00 per set, depending on the quality and the market in Georgetown. Having gathered all the materials, it generally took a man from two to three days of steady work to complete a set. Mostly only residents at the Air Strip made them, and any set that did not meet the Project Officer's standards was not accepted. At the end of the first year, several hundred of these sets had been

*177 sent to Georgetown. A few times when the Welfare Officer for Amer-
• 657 indian Handicraft and Artifacts had a definite buyer, she made a
322 special request for the large functional bows and arrows. However,
439 this opportunity affected only one man who made these especially well.

*177 At other times, a few pots, matapis, the cylindrical basket used to
657 squeeze prussic acid out of manioc, and sifters, used to grate the
439 cylinder of dried manioc pulp, and other basketry work were sent to
285 Georgetown.
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*177 Another episode involving regional markets concerns tropical fish.
657 For a few weeks from the end of April and into May 1971, Aenus Catfish,
226 both speckled and plain, were collected. These fish are about an inch
439 and a half long and can be easily caught by hand or net in the stream beds during the dry seasons. In early April, letter correspondence developed between the Project Officer and the proprietor of an aquarium supply company in Georgetown. The Project Officer was offered $50 per thousand of these fish, and he appointed a man with the help of his adult son to initiate collecting catfish. The first Friday, 650 catfish were sent to Georgetown in open tins via Guyana Airways. The men were paid 3¢ per fish, and the rest of the income was used in the care and storing of these fish. The proprietor paid the air freight costs. More generally men were encouraged to collect catfish, and residents from the satellite settlements as well as the Air Strip were involved. Usually on Friday morning, men would bring their catch to the air strip well before the plane came. Each man would bring as few as twenty-five fish which brought 75¢. The Project Officer would supervise the counting of fish and the loading of filled tins onto

the small aircraft. As is common in the handling and transportation of tropical fish, many would die. Up to as many as ten percent of the fish would be lost in transit to Georgetown, and the proprietor cut the price to 4 1/2¢ per live fish he received. After a few thousand catfish had been sent to Georgetown, tropical fish operations were suspended.

With this proliferation of small market opportunities, a money economy continued to develop in the Upper Barama River area after the closing of the mine. A government trade store is now located at Baramita Air Strip and operated by the Project Officer. During 1970-71, the minimal stock of tinned sardines, salt fish, flour, rice, sugar, cigarettes, matches, ammunition, cutlasses and knives, cloth lengths, pants and shirts, school exercise books and pencils was sometimes depleted by delay in the shipment of supplies from Georgetown. More often, Caribs did not have the cash to make purchases. Money tended to be a more specialized means of exchange. Only it could be used to purchase commercial goods. As a consequence of the limited circulation of money among this population, there occurred a renewed reliance on bush resources for food and tools. Secondary networks for the exchange of local provision foods greatly disappeared. A marked separation of those employed and unemployed during the mining economy was lost. In contrast, a diversity of limited opportunities to directly participate in regional exchanges was available more generally to the population at Baramita Air Strip. In this manner, the regional economy among the Upper Barama River Caribs has been supported by the national government since the closing of the mine.

2: Adams E-4,5 (1970-1971) 1973 SR9 Carib SR9
(1932-1971) Barama River

indication that the natural environment has been permanently degraded in any manner. However, some Caribs have neglected bush farms; specifically, those who regularly worked as miners at In Time. With the rupture of their source of provisions, the former miners and their families were faced with a subsistence crisis when In Time was closed. As an emergency measure, government subventions were introduced to sustain these people while they re-established bush farms. This was not a simple matter of waiting for the first crop. Although the manioc cultivated by the Upper Barama River Caribs is usually mature in nine months, it was commonly harvested as early as four months by the residents of Baramita Air Strip during 1970-71. Immature manioc obviously yields less calories than the mature crop, and a deficit in future crops was established. Also, a closer scouring of the natural environment for all sources of food, however minute, and, inevitably, hunger ensued among the Carib population at Baramita Air Strip.

In their remote rain forest environment, there have been no opportunities among the local Carib population to acquire resource banks which might include livestock, real estate, local enterprises such as shops or other mechanisms to divert, store, or otherwise manipulate the resources conducted through regional networks. Even agricultural fields, a primary local resource, are dependent on the labor extended to develop them and are eventually reclaimed by the forest. This underscores the lack of any other basis to hedge against the insecurity of external resources except to continually spend the labor to maintain farms in the bush. In the same manner, there is

2: Adams E-4,5 (1970-1971) 1973 SR9 Carib SR9
(1932-1971) Barama River

VI

CONCLUSIONS

In the previous chapters, attention has been given to the correlations over time of resources available for exploitation and the size and organization of a single population. The economic and reproductive adjustments of the Upper Barama River Caribs have been investigated. In their specific pathway from relative isolation in the rain forest into a national political economy, social organization and population size have been related to resource development. As this population has been centralized by common participation in networks of regional exchange, the household has emerged as the resource-sharing social unit. Ties of general reciprocity with a wider kinship group have tended to be dissolved. Another type of organization which has emerged to consolidate advantage in the regional economy has been client relationships with a middleman patron. In addition, external sources of food and clothing and medical care have tended to override relationships between population size and adaptation to local rain forest resources. An accelerating rate of population growth is currently evident among the Upper Barama River Caribs. In short, this population has evidenced changes in organization and increased population size under the conditions of its national integration.

Adapting to the rain forest, the Upper Barama River Carib population participated in the direct organism-to-organism cycling of

2: Adams E-4,5 (1970-1971) 1973 SR9 Carib SR9
(1932-1971) Barama River

241 182 105 energy characteristic of this environment. Slash-and-burn cultivation is a replication of the rain forest, and in this manner, human groups do not extend their niche through agriculture but rather integrate food production with the extant biotic community (Geertz 1963:15-28; Meggers 1971:19-21). The productivity of cultivation, hunting, fishing, and gathering were the essential components of subsistence, and the Upper Barama River Caribs, limited in population size, shifted in location as a response to these endeavors. As a consequence of this semi-nomadic adaptation, the largest social unit was the settlement, within which the sharing of resources and the exchange of labor were patterned.

361 105 [182]

*177 105 161 [464] [438] [657] In contrast, wage labor and other regional markets and modern medical technology have combined to expand the niche of the Upper Barama River Carib population. In turn, population size has expanded. At the time of Gillin's (1936) study in 1932-33, the Upper Barama River Caribs numbered about 200 and were located in dispersed settlements along the river corridor. There are now more than 550 Caribs nucleated around Baramita Air Strip. This increase in size has been achieved despite losses due to migration. The current rate of increase is about eight percent annually. Coupled with a low death rate, this is indicative of the potential for further increases among this population. Using population size as the coefficient of adaptation as proposed by Alland (1967, 1970), clearly a successful adjustment has been made to the new resources available over the short term generation-to-generation time span.

*177 43 In this context, any projections for either the future of the